

**Abstract**

A method of defining such a storage format in multiple data storage devices, each data storage device having a plurality of storage media and a plurality of corresponding data transducer heads, each transducer head for recording on and playback of information from a corresponding storage medium in at least one zone, wherein each zone includes a plurality of concentric tracks for recording on and playback of information. The method includes the steps of: selecting a plurality of said data storage devices; for each selected data storage device, measuring a record/playback performance capability of each head at one or more read/write frequencies per zone; based on said performance capability measurements, generating storage density distributions corresponding to at least a number of the heads in said selected data storage devices; selecting a group of read/write frequencies for said multiple data storage devices, two or more frequencies for each zone, based on said storage density distributions; and assigning one of said read/write frequencies to each head based on performance capability of that head.